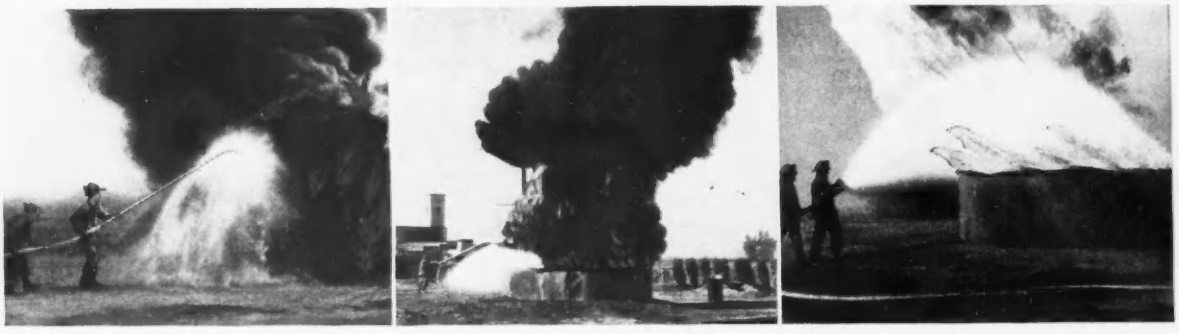
Volunteer Firemen

JANUARY 1944

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

VOLUME II, NUMBER 1, COPYRIGHT 1944 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

THE FEAR OF FIRE is dispelled with the use of FOGNOZL



Fognozls produce a protecting screen of fine particles of water, called "water fog." This screen, whether produced from a high velocity tip or a low velocity head, protects the fireman so that he can advance on the fire with confidence.

Harry T. Paxton has written a very instructive article under the title of "Firemen of the High Seas" appearing in the Saturday Evening Post of October 9, 1943, in which he says: "The old fashioned solid stream of water, while good for putting out burning rugs, mattresses and other common combustibles, is not nearly so effective for more ticklish work as are some newer wrinkles. One of these is water fog."

Then again he says, "With this fog as a shield, they (firemen) can advance right up to a tank in which gasoline is blazing so intensely that spectators forty or fifty feet off turn their faces away. It works against the real thing, too; in the tanker blaze described earlier, fire fighters were amply protected by their screens of water fog, and got along without such paraphernalia as asbestos suits. Properly applied, the fog quenches flames in a matter of seconds."

● **FOGNOZL FACTS**—PREPARE BY ACCUMULATING DATA ON THIS NEW WATER FOGNOZL FIRE-FIGHTING METHOD THAT HAS REVOLUTIONIZED OLD METHODS. FOGNOZL ACCOMPLISHMENTS ARE DAILY EMPHASIZED BY OUR ARMED FORCES.
● A BROCHURE OF **FOGNOZL FACTS** WILL BE SENT, WITHOUT OBLIGATION, TO THOSE ENGINEERS OR EXECUTIVES WHO WILL SO REQUEST IT ON THEIR OFFICIAL OR DEPARTMENT LETTERHEAD.
IN FOLDER CONVENIENT FOR YOUR FILE

- PROTECTION TO PERSONNEL
  TO FIREMEN AND FIRE VICTIMS
- RAPID EXTINGUISHMENT
  A MATTER OF SECONDS
- REDUCED WATER DAMAGE
  A RATIO OF 1 TO 30
- ECONOMY & AVAILABLE SUPPLY
  PLAIN WATER

GRISWOLD ORIGINAL WATER FOGNOZL

A PRIZE FOR THE BEST

A prize is hereby offered for the best "still" photographs showing the sequences of extinguishing fires occurring in the United States and Canada, with any of our FOGNOZLS, old style or new. The photographs in this advertisement are a sample. We reserve the right to use any or all photographs for advertising purposes and any sent in are sent to us with this understanding. The only compensation is the prize to the best pictures. The prize? Why a FOGNOZL, of course.

FOG NOZZLE COMPANY

1520 EAST SLAUSON AVENUE ● LOS ANGELES 11, CALIFORNIA

FOG NOZZLE OF CANADA, LTD., MONTREAL, CANADA

Give him the answers before it's too late!

● When fire breaks out at your plant, will the confusion of your men give the blaze time to get out of control? Not if they've been shown exactly what to do. Men *who know how* act swiftly and confidently to nip small fires.

Make sure your key men have the training they need. Stage a demonstration now. Let them see your equipment go into action against real fires. Explain the different types of fire and the right way to fight each of them.

To help you plan an interesting, instructive show, Walter Kidde & Company has issued a booklet, "HOW TO TEACH FIRE FIGHTING." Write for your free copy today.

Kidde

WALTER KIDDE & COMPANY, INC., 149 MAIN STREET, BELLEVILLE, N. J.

THIS ADVERTISEMENT IS ONE OF A SERIES APPEARING CURRENTLY IN INDUSTRIAL PUBLICATIONS

RANGE FINDER and FIRE STREAM CALCULATORS

Free! to the FIRE CHIEF

Just Fill Out the Coupon

Nothing is more important on the home front than fire fighting equipment of the greatest possible efficiency. Your answers to the questions here will help us in our efforts to maintain and improve such efficiency and to plan for the post war period. To say "thank you" for supplying statistical data about your fire department we will send you a set of our handy Calculating Charts in a convenient holder.

Fill Out, Clip and Mail to

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AKRON BRASS MFG. COMPANY, INC.
Wooster, Ohio

Gentlemen:
Here is statistical information about our fire department to help you plan production and increase the effectiveness of our fire fighting equipment:

Number of fire stations_____ Number of men_____

FIRE HOSE		FIRE TRUCKS			
Size	Footage	Type	Gal. Cap.	Size	No.

SHUT-OFF NOZZLES		MIST NOZZLES		DELUGE NOZZLES	
Size	Quantity	Size	Quantity	Size	Quantity

Improvement suggestions and remarks _____

Name_____ Title_____

City_____ State_____

If you need additional coupons please write us

Volunteer Firemen

AT a meeting of the N.F.P.A. Committee on Firemen's Training held last month in Chicago, Chief Fire Marshal Anthony J. Mullaney of that city, a member of the Committee, called attention to the poor fire streams that so often appear in pictures of large fires. In many cases the pressures are too high or too low, or the streams are broken or are not properly directed. One of the chief difficulties standing in the way of the average fire department's efforts to develop heavy streams is that such streams are needed but rarely and then they are wanted in a hurry. Thus the rather difficult job of running multiple lines, perhaps from different pumpers, does not go as smoothly as would be desired. Time is lost and frequently the proper pressures are not obtained.

The Chicago Fire Department is believed to be one of the few fire departments that drills in multiple company operations such as those involved in getting heavy streams into operation. For example, water towers require such large amounts of water to supply both mast and turret nozzles that, usually, two or more pumpers stationed at different hydrants must be utilized. Formerly it required approximately twelve minutes to get a water tower into operation. Drilling in multiple company operations, the Chicago Fire Department cut this time to only three minutes and forty-seven seconds at an actual fire.

The cover picture this month shows a recent Chicago fire at which the water tower was employed. Note the man in the crow's nest of the tower directing one of the mast streams. In the background are some efficient looking streams directed from another building.

Of course, only the largest fire departments operate water towers, but a somewhat similar problem is encountered at every fire where ladder pipes, deluge sets, or other heavy stream devices are required. Fire departments should give special attention to drills needed to get heavy streams working quickly. Lines supplying such streams should be kept as short as possible so that pumpers can deliver full capacity at the nozzle without too great a loss of pressure due to friction, such as results from long lines at high pressures.

Many helpful suggestions on the subject of developing good fire streams appear in the text "Fire Stream Practices" available from the College Book Store, Oklahoma A. & M. College, Stillwater, Okla., at a cost of thirty cents a copy. The same text is available from firemen's training officials in fourteen other states using the Oklahoma standard training texts.

Volume 11 **Number 1**

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch St., Boston 10, Mass.

PERCY BUGBEE	*General Manager*
ROBERT S. MOULTON	*Technical Secretary*
HORATIO BOND	*Chief Engineer*
WARREN Y. KIMBALL	*Editor*
CHARLES S. MORGAN	*Advertising Manager*

CONTENTS

For January, 1944

	Page
The Inside Story about OCD Fire Apparatus and Equipment, by Colonel E. L. White	6
"Kid Firemen" Do a Man-Sized Job	7
What Work Does the Pumper Do?, by Warren Y. Kimball	8
Portable Pump Useful at Rural Fire	9
The Role of a Bubble at War	10
Defective Fireplace Causes Typical Wintertime Fire	12
Oregon, Illinois, Volunteer Fire Department Trains Local Fire Brigades	12
A Report on Extinguishers	12
Longest in Fire Service?	14
New Book	14
Membership Report	16
Cartoon	16
Fire at Port Tacoma	18
Our Readers Say —	20
Manufacturers Announcements	22
Index to Advertisers	22

—THE VOLUNTEER FIREMAN

IN Canada, the name of the Office of Civil Air Defense has been changed to the Office of Civil Defense. Brigadier General Alex. Ross, Director of Civil Defense, explained that the war had caused such an increase of hazards to life and property that emergencies having nothing to do with air attack necessitated the calling out of civil defense units for active duty at fires, train wrecks, floods, rescue of crews from wrecked aircraft, and other emergencies. Such activities were not covered by the title "Air Raid Precautions" which gave too limited an idea of the activities of the organization.

SECRETARY EDWIN HARSHMAN, of the Mingo Junction Volunteer Fire Department in Ohio (newly enrolled N.F.P.A. member), writes:

"We feel that you are interested in knowing what volunteer fire departments are doing in the war effort, other than trying to adequately protect the home front.

"From our department, whose membership was from 35 to 40 men, 18 men have gone into the armed forces. From the Drum and Bugle Corps, sponsored by the department and composed chiefly of department members, 10 additional men have gone. One of the latter, Daniel Di-Thomas, was killed in a bombing mission over Europe.

"Our department sends a monthly newsletter to all these men and also a gift at Christmas time. The two organizations have war bonds amounting to $1,700 (maturity value)."

The editors of VOLUNTEER FIREMEN feel sure that the contributions being made to the war effort by 14,000 volunteer fire departments are tremendous. Without doubt the greatest contribution made by the volunteer fire service has been in the many thousands of men that have gone into the armed services, some of whom have given their lives. Volunteer firemen are men who were already familiar with the meaning of discipline and training, hardships and danger before they left their homes. As members of volunteer departments include the most active and physically fit young men of the average community, many departments, like Mingo Junction, have lost up to fifty per cent or more of their personnel into the services.

Volunteer departments have also bought war bonds; set up funds for their members in the service; issued news bulletins for service men; trained auxiliary firemen, fire guards, and industrial fire brigades; contributed blood plasma; operated first aid squads; and in general have supported every worthy task confronting their community and nation.

Can any volunteer department add to this list of patriotic activities?

The Inside Story About OCD Fire Apparatus and Equipment

by Colonel E. L. White, Chief

Equipment Office, Office of Civilian Defense

WHEN the OCD was established, the plans for the protection function were entirely missing, and it was necessary to devise a complete program from the bottom up with absolutely no experience to guide us except what could be learned from the British experience, which, of course, had to be adapted to American practice.

At that time there was a completely different complexion to the war situation and, while full-scale air raids were not actually expected to be imminent, there was no assurance that the military situation might not change so as to bring about widespread destruction from enemy attack. These conditions have now changed, and although the probability of enemy attack seems to have decreased, its possibility is still a factor which compels us to maintain at full efficiency a protective force sufficient to meet the probable need of each community as it may appear, so that no let-down on our part can be permitted.

This need for protection is still particularly evident in the case of the fire-fighting equipment which the OCD has been able to obtain and distribute, and also with regard to the enrollment and training of the auxiliary firemen to operate this equipment.

A committee of experienced technicians and experts were called together to formulate the plans for the fire protection necessary under the OCD function. This committee arrived at certain recommendations which became the basis for the procurement and distribution which later took place. Because of the system under which the OCD was directed to operate, no procurement could be initiated until funds were available for it; and although legislation passed Congress on February 21, 1942 appropriating $100,000,000 for the procurement of OCD protective equipment, the actual funds were not made available until March 25th. The real procurement program, therefore, started on April 2, 1942 when a request was forwarded to the Corps of Engineers of the Army to buy for us 18,000 500-gallon pumping units of three different patterns, and soon after there followed procurement orders for the necessary accessory equipment.

The basis of the plan laid down was that communities and localities covering a population of about 54,000,000 people were to be protected. These communities and localities were to be those which the War Department designated as being most essential to the war effort because of the location of industrial plants, etc. It was never contemplated that OCD would have the responsibility for the protection of the actual war factories and facilities but that because of the probability of such localities being primary targets protection should be afforded to the residences and buildings of the civilian population located in those areas, in order that the destructive effects of enemy action might be minimized as much as possible.

IT is interesting to note that this plan has been modified but little, although the number of communities which have received protective equipment has been enlarged so that now we have made distribution to about 3,300 different towns and cities including a population of over 65,000,000 inhabitants.

Fire Chief Edward Clawson, New Kensington, Pa. (Member N.F.P.A.) is rightly proud of this handsome ambulance operated by the New Kensington Firemen's Ambulance Corp. In the first nine months of this year the boys made 570 trips with this new vehicle of mercy. The ambulance service is supported by donations of appreciative citizens.

AS mentioned above, the plans called for the acquisition of 18,000500-gallon pumper units, complete with accessories. For this purpose approximately $36,000,000 was transferred to the Corps of Engineers to carry out the procurement of these major units; and in addition to this sum another $12,000,000 was appropriated to obtain pump tank extinguishers which again had to be devised for American use. While 18,000 pumper units does not seem tremendously large, it might be interesting to translate this program into breakdown figures. With each pumper unit there are being supplied hose, clothing, ladders, hoseline equipment, lanterns, first aid supplies, etc., so that, counting the pump as one single item, there are actually 126 single items in a complete single issue. This meant that procurement had to be initiated and carried through on about 650,000 individual items without disrupting or interfering with any war production. The size of this task can be shown by the fact that if all of the equipment could have been loaded in solid freight car loads and shipment made direct from manufacturers to ultimate destinations, 20 freight trains of 100 cars each would have been necessary, or a single train 19 miles long.

The service hose procurement runs into staggering figures. It was at first intended to supply 1,500 feet of hose for each pumper, and with appropriate reserve this would have amounted to a procurement of 30,000,000 linear feet of hose. In the last of the peace years the total service hose production of the United States was only about 14,500,000 feet, so that if our program had been carried out at the same rate, it would have taken two years total production of the same facilities and would have left absolutely no hose production for the Army, Navy, our allies' armed forces, or civilian use. Of course, the hose production facilities were increased, but it was impossible to obtain the amount of hose desired and we were forced to reduce the amount from 1,500 feet per unit to 600 feet per unit. Even that decreased requirement, however, resulted in the production of 10,800,000 feet of service hose, which, if coupled together, would reach from Chicago to San Francisco.

As mentioned before, the appropriation for the procurement of the fire equipment and accessories amounted to $36,000,000. On this basis each pumping unit would represent about $2,000 of the Govern-

(Continued on Page 18)

"Kid Firemen" Do A Man-Sized Job

FROM all parts of the United States and Canada come reports of shortages of manpower in fire departments because firemen are in the armed forces or are working in war industries. A recent survey by the N.F.P.A. showed that in cities of more than twenty thousand population an average of one fireman out of eight was in the armed forces. The proportion of men similarly lost to the volunteer fire service is much higher.

The Chemical Fire Company No. 1, of Hummelstown, Pa., has a unique solution to their manpower problem in their Auxiliary Fire Defense Company made up of well-drilled and carefully selected high school boys. At a recent fire when only one member of the adult fire company showed up, the boys operated the pumper and put out the blaze with inconsequential loss.

Hummelstown's "Kid's Fire Fighting Organization" was organized two years ago when Secretary Edgar A. Spotz, of Chemical Fire Company No. 1 was given the job of organizing an auxiliary fire company. He soon found that even at that date (shortly after Pearl Harbor) there were few men who were not already in other war work or in the armed services. Spotz then asked the Fire Company for permission to use boys for the auxiliary unit. This permission was granted and he visited the local high school and started giving the OCD auxiliary firemen's training course to a group of boys sixteen years of age and over. The outstanding members of this class, a group of nineteen boys, were admitted to membership in the fire department. They are thus protected by workmen's compensation insurance and by the local Firemen's Relief Association.

A detailed code of operation for this auxiliary fire company is set forth in a resolution adopted by Chemical Fire Company No. 1 on January 13, 1942. The code of operations set forth in this resolution contains sections under the following headings: 1. Name, 2. Purpose, 3. Officers, 4. Duties of Officers, 5. Membership, 6. Duties of Members, 7. Drills and Meetings, 8. Property, 9. Authority. Under these rules the boys are required to have regular outdoor drills at least once each month in good weather and inside drills during bad weather. All apparatus and equipment of the Auxiliary Company is the property of the regular fire company but is held in trust for the use of the auxiliaries by the trustees of the fire company. Edgar A. Spotz serves as chief of the boys fire company and in addition there are three assistant chiefs and a secretary.

ONE of the outstanding days recorded in the annals of the Hummelstown Auxiliary Fire Company was September 3, 1942, when the "kids" performed numerous fire-fighting evolutions before an audience of some three hundred firemen at the Annual Pennsylvania Firemen's Training Conference. The pictures on this page show several of the evolutions carried out such as taking suction from an improvised basin formed with ladders and salvage covers, and jumping into a life net. The firemen present at the conference voted that $30 in prize money should be given to the boys.

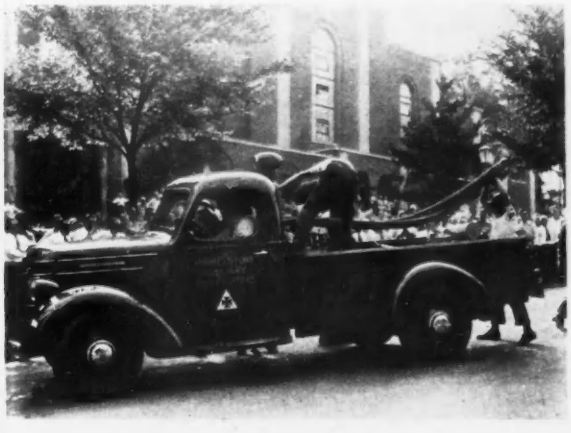
The auxiliary fire truck, also shown below, was purchased as a result of the boys' money raising activities including selling old newspapers and salvage items, and a door-to-door canvas for subscriptions. This truck carries both 1½-inch and 2½-inch hose and a portable pump.

One of the Hummelstown lads jumps from a drill tower into a life net. Arthur Myers, of Atlas Safety Equipment Co. is in the foreground helping to hold the net.

This auxiliary company has become much more than a civilian defense unit. Most of the members of the regular fire company are no longer available for fire duty and the kids are doing most of the work of protecting this community of more than thirty-two hundred population. The efforts of these boys has not gone unnoticed. Last winter the story of the Hummelstown Auxiliary Fire Company was featured by James M. Landis, then Director of OCD, in a nation-wider adio broadcast. Pictures of the organization have appeared in the rotogravure sections of several leading newspapers.

When the Auxiliary Fire Company joined the N.F.P.A. Volunteer Firemen's Section, they requested that their membership be sponsored by N.F.P.A. President, Dr. David J. Price, whom the boys had met at the Pennsylvania Fire School.

The auxiliary fire truck purchased by the Hummelstown boys.



Taking suction from an improvised basin.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

What Work Does The Pumper Do?

THE most useful and often the most costly machine owned by the average fire department is its pumper. Yet when the pumper is backed into quarters upon return from a working fire an intelligent effort is seldom made to measure the work it has performed. The machine may have been in operation ten minutes or an hour or more. It may have supplied one line or three. When fire streams are not all that they should be at fires the average fire department tells the newspapers "inadequate water supplies" or "low water pressure." Yet to be honest with ourselves we must admit that in many cases the trouble is due to failure to have the pumpers properly utilize the water supply that was available.

In almost every community, large or small, water is piped to various sections in accordance with carefully made estimates of potential demand. Particularly in small communities the fire flow requirements for a given area form a major part of any estimate of water service requirements. However, it is the job of the fire department pumpers to take the water that is piped to hydrants near a burning property and apply it efficiently to the actual fire, except in cases where sprinkler systems have been provided in advance to pipe the water directly to locations where a fire may occur.

Many persons do not realize that unintelligent placing of pumpers and hose lines about a fire often reduces the potential efficiency of the available water supplies as much as fifty per cent and may even make it impossible to obtain efficient streams.

For best results pumpers should be placed at hydrants nearest to the fire unless it is known that these hydrants are on small water mains that cannot provide the needed flow of water and that more adequate supplies are available from other hydrants at a slightly greater distance. The further the pumper is from the fire, the more of its power must be utilized to overcome resistance in the hose lines and thus the smaller will be the actual amount of water thrown upon the flames. For example, a common rule is to use 1¼-inch nozzle tips on pumper streams supplied by less than 300 feet of hose, and 1⅛-inch tips on lines up to 500 feet in length, but for longer lines it is frequently necessary to use 1-inch nozzle tips because of the loss of pressure due to friction in the hose. Of course, large tips can be used on the longer lines by operating the pump at higher pressures but this reduces the capacity of the machine and usually reduces the number of lines that can be effectively supplied.

The question may be asked, "How can a fire department know whether it is getting the maximum efficiency out of its pumpers?" The answer is: to keep a brief work sheet for each machine covering the actual work performed at fires.

On this page is shown a typical pumper performance report including a diagram showing the fire stream layout at the fire covered by this report. Separate sheets should be made out for each pumper in operation at the fire and this information can then be readily assembled to summarize the total performance of all the pumpers at a fire. For example, in the typical case shown the tabulation shows that three pumpers having a total rated capacity of 2,250 gallons per minute sup-

REPORT ON PUMPER OPERATION — Fire No. 32

Date October 4 1943 Time 3:10 PM Location 115 A St. Box No. 18

Occupancy Hardware Store Construction Brick-joist No. Floors 3

Origin of Fire Basement Extent of Fire Extended to first floor

Pumper No. 1 Rated Capacity 1000 GPM Location at Fire First and A Street

No. Lines Connected 3 No. Streams Supplied: Hand operated 0 Heavy 1

Details on Lines in Use:

	Length	Size of Hose	Size of Nozzle	How Employed
1	200 ft	2½-inch	1¼ inch	deluge set
2	"	"	"	same " "
3	"	"	"	same " "

At what level were streams used (give elevation of nozzle) Street level

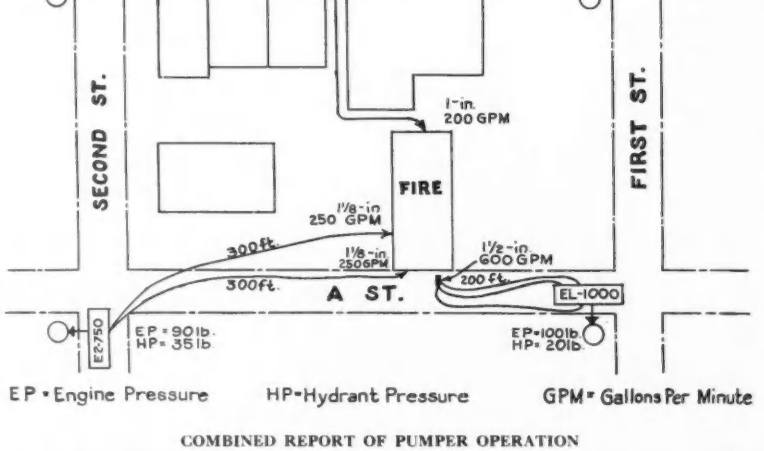
How long was pump in operation 45 minutes

Discuss any streams that were not entirely satisfactory or could have been improved

A larger nozzle tip would have permitted greater discharge.

Include brief diagram of hose layout in use See attached sketch

Signed: Pump Operator H. W. Dyer Company Commander J. J. Donahue



EP = Engine Pressure HP = Hydrant Pressure GPM = Gallons Per Minute

COMBINED REPORT OF PUMPER OPERATION

Eng. Co.	Rated Capacity of Pumpers	Residual Hydrant Pressure	No. Lines	Supplying	Hose Layout	Nozzle Tips	Discharge Pressure	Nozzle Pressure	Total Discharge GPM
1	1000	20	3	Deluge Set	200′ @	1¼ in.	100	80	600
2	750	35	2	Hand Lines	300′ @	2–1⅛ in.	90	45	500
3	500	30	1	Hand Lines	500′	1	95	45	200

plied six lines having a total discharge of 1,300 gallons per minute. This was less than two-thirds of the actual capacity of the pumps. A study of this data will show that it would have been possible to use somewhat large nozzle tips and get a larger fire flow. Also, as shown by the diagram, No. 3 pumper could have been located nearer to the fire permitting better performance.

WHAT are some of the results that may be obtained by making such studies of pumper operation? 1. The department will know whether its pumping equipment is being used to maximum advantage. This information can be used in planning future fire-fighting operations and in conducting drills. 2. The department will know what proportion of the actual rated capacities of its pumpers was delivered under fireground conditions. 3. The fire department will have evidence to prove any need of greater pumping capacity to fully utilize existing hydrant supplies. 4. It will show that in many cases greater efficiency could be obtained by having several companies run their lines from the pumpers nearest to the fire rather than by having late arriving pumpers supplying long lines with small nozzles. 5. It will show the department when pumpers are being overloaded by attempting to obtain more streams than each machine is designed to handle. Sometimes pumpers are forced to deliver more than their rated capacity with the result that extensive repairs are required as a consequency of the overload. Some pumpers can supply three short lines but only one really long hose line. 6. Such a check-up will show whether the proper size nozzle tips were used to provide the best streams possible with the length of line used. 7. Also the department will know whether or not it has delivered the maximum amount of water that was possible when large flows were needed.

There is another way that the fire department will benefit by keeping careful records of the work done by pumpers at fires. Deficiencies in the water supply system in any part of the community will no longer be a matter of mere opinion or conjecture, but will be a matter of record. The fire department will be able to point out actual cases where low water pressures, insufficient hydrants, dead-end or small water mains, inadequate water storage facilities were responsible for failure to promptly control a fire. Fire service officials can then go to the proper authorities and say, "The hazards in this district require so many hose streams. The hydrant at this location could not give us enough water" or "The total flow available at this fire was only 600 gallons to supply pumpers having a total capacity of 1,500 gallons per minute." With such information the proper officials can be impressed with the importance of correcting the deficiency rather than accepting the responsibility for further serious fire losses.

Portable Pump Useful at Rural Fire

N. F. P. A. Member Horace B. Clark Reports a Recent Experience at North Granby, Connecticut

WE have had a couple of bad barn fires this fall and pictures taken at the latest rather fit in with your article on covering exposures (VOLUNTEER FIREMEN for November 1943). My station wagon is so much faster than the apparatus that I arrived well ahead. Barn was well ablaze; to the south was the ell of the house with paint scorched but the fire was held off by neighbors with "Indian pumps" and the danger there was not then severe. To the west, down-wind, was a garage getting the full blast of heat and just igniting on the outside. To the east was a hay barn. In the burning barn was a little four-year-old boy who had lately learned to play with matches and whose body was found near that of a bull also in the barn.

We passed up the garage and the picture shows how it all went up; note the flame from the gasoline pump. The first machine in drove through the heat between the house and barn, in position to use booster on either house ell or end of barn, but had little need to operate as heat was blown away from the barn.

What is normally a swamp pool within reach of the property with hose, was just dry moss. After quite a while we got about thirty gallons a minute for two lines of 1½-inch hose by a setting portable pump at a brook beyond the reach of engine suction, stretching 550 feet of unlined 1½-inch forestry hose through bushes to a barrel from which an engine drafted and 1,450 feet of 2½-inch hose carried water to the fire area.

Our local chief, George R. Beman, places great value on having a portable pump on the apparatus. My No. 1 engine is located at the Granby station with the portable pump and 1,000 feet of 1½-inch hose in knapsacks. I think it would be well to add to N.F.P.A. specifications for rural apparatus a recommendation that a portable pump be carried and that an adapter be provided so that the small suction of the portable can be attached to the pump suction of the engine or at the end of the suction hose to extend it. I find this very handy. The suction hose for our portable is 2-inch size and one man can handle it. You get about 200 g.p.m. through one length or 100 to 150 g.p.m. through two or three lengths if the lift isn't too high. At one trial down a long steep bank we used three lengths of 3½-inch suction hose extended with two lengths of 2-inch and got two ⅝-inch streams serviceable for fires in small dwellings. The small suction is plenty if you need only 1½-inch hose for forestry work and would certainly be handier than the 3½-inch suction if we had to work from a well. I carry a 2-inch check valve also which is a help and a water saver if you want to charge the suction from the booster tank. Also, the 2-inch size no-sand strainer is a "life saver" in a small stream too shallow for the larger suction hose.

THIS fire occurred on a Sunday. Normally there would have been but one machine at the North Granby station. In this case we had the North Granby machine out for drill and had one of mine (pumper from Mr. Clark's estate — *Ed.*) there to stand by in case of a call. The department's largest pumper was stationed in the station at Granby, nearer the fire, but the telephone line for the Granby siren was occupied with an out-of-town call and the operator would not cut in. A fireman, living two miles away, heard our North Granby siren and drove to the station and took out the machine.

Because of the drill we had two machines and a half dozen men ready to roll and these helped to offset the delayed response from Granby.

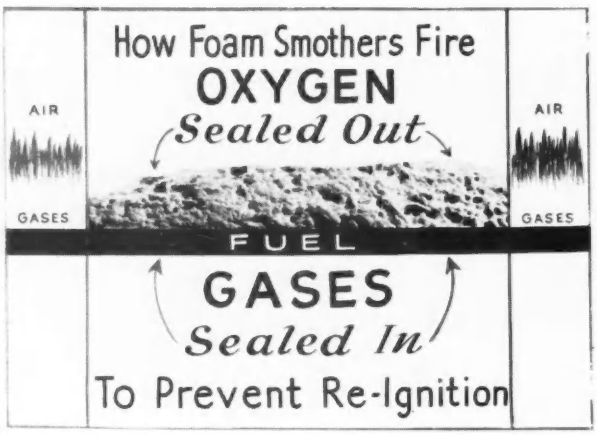
THE ROLE OF A BUBBLE AT WAR!

by John Lord Butler

National Foam System, Inc. (Member N. F. P. A.)

WHAT can a bubble do in a war against Fire, man's most destructive enemy? Individually, nothing, of course. But collectively, as a mass, that's a different story.

When countless minute bubbles are firmly bound together to form a tough free-flowing blanket of foam, the bubble then becomes the killer of difficult fires, the savior of lives and property at sea and on land. This progeny of the chemist's laboratory has fought man's difficult fire battles faithfully and efficiently. The needs of war having stimulated its development and growth, it is rendering even greater service in the responsible duty it is called upon to perform.



These countless minute bubbles of air or gas are held together in a tight cohesive and adhesive mass by a binding substance called a "stabilizer." When applied over fire, the foam blanket covers the blazing surface and spreads, killing fire by smothering as it builds up and rolls on like an expanding lava.

Everyone knows that any blanket is a protective covering. Also, everyone is familiar with the fact that a wool bed blanket is a protective covering, the purpose of which is to keep the cold air out and body heat in. This is accomplished by the creation of the numerous tiny air cells which are formed between the interlocking wool fibres of the nap, thus providing the necessary insulation which is called "warmth." A blanket, whether made of wool, cotton or other material, can be nothing else but a protective covering having substance and form, with a capacity to insulate.

Like the wool bed blanket, a foam blanket, when spread over the burning area, provides a protective covering of substance and form, whose chief function is to "seal out" or eliminate oxygen — fire's breath of life — while at the same time it "seals in" the gases to prevent their escape and re-ignition.

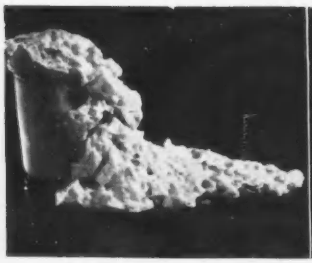
As fires are not "made to order" and must be fought under all types of conditions, the importance of a permanent protective blanket, unaffected by wind or atmospheric conditions, is evident. (See diagram.)

To accomplish its objective, the foam blanket must possess these three essential features: — cohesion, adhesion, and fluidity; and these features must be in proper relationship with each other to produce the best results.

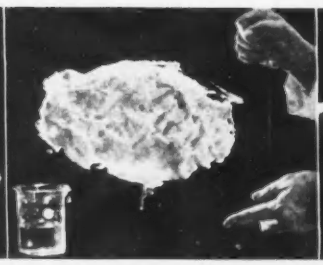
Foam may be applied to a vertical wall to insulate and keep fire from spreading. It may be used as a dyke to stop running fires. It will float on water, oil or gasoline. It will cling to anything with which it comes in contact, sealing every part. After it has served its purpose, over 90% of the foam will evaporate. It is not harmful to persons or ordinary clothing.

The Chemistry of Fire Involves the Following Equation: Fuel + Ignition Temperature + Oxygen = Fire. When these three factors are in proper relationship, combustion or fire occurs. Therefore, when any one or more of these factors are removed, fire is extinguished. It is obvious that fuel cannot easily be removed, and that frequently, especially with difficult fires resulting from burning oil and gasoline, the reduction of ignition temperature by cooling is frequently difficult, if not impossible, to accomplish. The elimination of oxygen from the fire is usually the easiest method of extinguishment.

During the past generation, foam fire protection has been used successfully by many oil companies and various other industries having exceptionally hazardous risks. Even before the war, the great damage and loss caused by fire, particularly as a result of bombings, were known and anticipated. When the war came, foam met the difficult tests and requirements and was quickly "drafted" by our armed forces as one of the important methods of fighting difficult fires. Today, foam is in service everywhere, protecting lives and property, assuring uninterrupted fire power of our guns. Truly, a vital role for a bubble to play and a high testimonial to its war record.



Foam—Cohesive and Adhesive



Adhesion—Foam Sticks to Vertical Glass Plate

Fire beign Smothered by Blanket of Foam

Cohesion—Foam Bubbles Form a Mass

A·D·T

AUTOMATIC PROTECTION offers..

6 answers TO YOUR WATCHMAN-GUARD PROBLEM

1. **INVISIBLE RAY ALARM:** Photoelectric beams (indoors or out) detect intruders, automatically summon guards and police.
2. **TELAPPROACH:** Electronic boundary protection automatically summons guards and police when trespassers enter prohibited areas or approach protected objects.
3. **BURGLAR ALARM:** Electric protection for doors, windows, skylights, safes, vaults, etc. —anti-intrusion protection.
4. **AERO AUTOMATIC FIRE ALARM:** Detects fire at its start, summons fire department.
5. **SPRINKLER SUPERVISORY AND WATERFLOW ALARM:** Automatically detects and reports trouble that might impair sprinkler efficiency, automatically summons fire department when sprinkler heads open.
6. **WATCHMAN-GUARD SUPERVISION:** Increases plant protection by automatically detecting and reporting watchmen's failures to report.

● Today's manpower problems add greatly to the difficulty of maintaining adequate guard and watchman forces. That is why so many more plants are turning to A.D.T. Automatic Electric Protection Services to insure maximum protection with minimum manpower.

A.D.T. Protection Services *automatically* safeguard against fire, intrusion, sabotage and burglary. They never take days off, they never sleep, they watch everywhere at once with constant unfailing vigilance. And, by catching trouble before it gets serious, they help prevent production stoppages and losses of time, money and vital materials. Plants using A.D.T. Automatic Protection maintain more efficient guard service, make substantial savings.

Find out how these A.D.T. Services can help you ...a survey of your protection problems involves no obligation.

A.D.T. ELECTRIC PROTECTION SERVICES

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Ave., New York*

CENTRAL STATION OFFICES IN ALL PRINCIPAL CITIES OF THE UNITED STATES

A·D·T

Electric Protection Services

AGAINST FIRE · BURGLARY · HOLDUP

A NATION-WIDE ORGANIZATION

Defective Fireplace Caused This Typical Wintertime Fire

This fire, due to a defective fireplace, occurred in Portland, Maine, last winter, while the temperature was 34 degrees below zero. Chief Oliver T. Sanborn, of the Portland Fire Department, wrote that aside from the weather "this was just an ordinary fire in a three-flat house." The very fact that this was an ordinary fire makes these pictures of especial value as an example of typical fire behavior, where a fire starts from a defective fireplace or chimney. Note in each picture how the fire travelled up the space around the chimney into the attic area and along the eaves. The picture at the left shows the height of the early morning fire, while that at the right was taken after the blaze was under control.

Oregon, Illinois, Department Trains Local Fire Brigades

EDWARD M. "DUSTY" RHOADES, of the Eureka Fire Hose Company writes that the Oregon (Illinois) Fire Department, member N.F.P.A., "is an exceedingly progressive outfit." The picture shows part of a class of 45 men who took a training course for industrial fire brigades under the direction of Oregon Fire Department's Drillmaster Elmer Kaufmann (at the wheel of the truck). The factories represented are the Carnation Milk Co., E. D. Etnyre and Co., Kol-Master Corp., National Silica Co., and the Paragon Foundry Co. All of these factory fire brigades have joined the Black Hawk Fire Fighters Association.

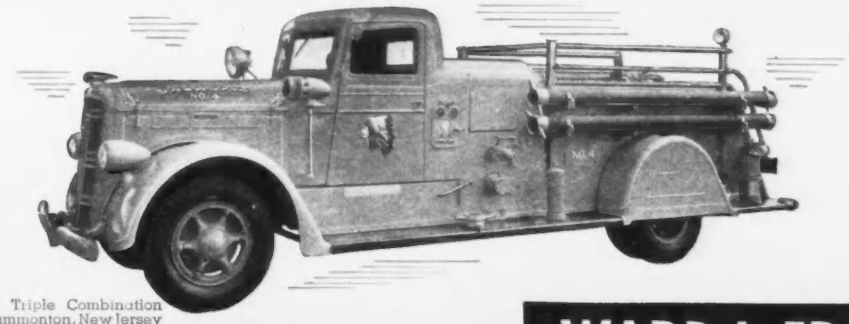
Under Chief B. E. Haas, the Oregon Fire Department renders a rural fire protection service over a ten-mile radius. Fires have been extinguished in buildings valued at $50,000 which would otherwise have been destroyed. The rural fire truck was purchased in 1937 with subscriptions sold in rural areas supplemented by contributions by Oregon businessmen and an appropriation by the City Council. Fire protection service is rendered free to rural residents who have subscribed at a cost of $25. To non-members a charge is made at the rate of $50 for the first hour or fraction thereof and $25 an hour thereafter.

A Report on Extinguishers

A SURVEY recently completed by Safety Research Institute, 420 Lexington Avenue, New York 17, N. Y., indicates that about one third of the fires put out by municipal fire departments in the United States are extinguished with hand equipment. The survey reveals that 41,657 fires were extinguished during the year 1942 by the 191 departments reporting. Of these fires 28,033 were extinguished with hose streams of various sizes including chemical and booster hose, and 13,624 were extinguished with first aid equipment. The information obtained in the survey has been compiled in chart form and is available on request to Safety Research Institute.

Safety Research Institute has also called attention to confusion concerning the distinction between fire extinguishers bearing standard Underwriters' Laboratories approval and those bearing "EAS" approval. It is pointed out that *Standard* approved extinguishers bear the usual Underwriters' Laboratories label, which reads "Underwriters' Laboratories Inspected," and gives the serial number of the label and pertinent information on the classification of the extinguisher. That label signifies that the unit conforms to "pre-war" specifications covering types of materials, details of construction, and performance requirements. Such extinguishers are now available only on very high priorities.

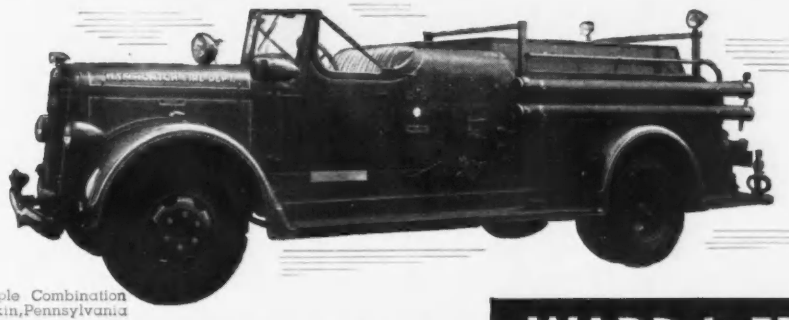
Emergency Alternate Specifications were developed which permit the use of substitute materials, and extinguishers produced under these specifications bear an "EAS" approval label which shows the year of manufacture. This label signifies that the unit will perform as well as the standard model, but will require more careful maintenance and cannot be expected to resist corrosion or stand up as long as the standard types. The emergency specifications will be withdrawn after the war.



MODEL 56T* Triple Combination
Pumper for Hammonton, New Jersey

WARD LaFRANCE

TWO EXACT FITS



MODEL 56T* Triple Combination
Pumper for Shamokin, Pennsylvania

WARD LaFRANCE

Fire apparatus that's "almost right" for a community's needs is like an operation that is "almost successful".

While Model 56T is one of the types not available for the duration, Ward LaFrance basic peacetime models are so many in number, so adaptable to necessary modifications, that our engineers can produce an ***exact*** fit . . . equipment precisely engineered to the characteristics of your community.

***Quick Facts** ABOUT MODEL 56T . . .*

Overall length: 23 ft., 6 in. . . . **Weight (empty):** 11,600 lbs. . . . **Cylinders:** 6 . . . **Wheelbase:** 174 in. . . . **Turning Radius:** 30 ft. . . . **Horsepower:** 150 . . . **Pump:** 300 G.P.M. Two-stage centrifugal (rotary optional) . . . **Hose:** Reel, Rear, Capacity: 450 ft. ¾ in. hose, 300 ft. 1 in. hose . . . **Booster Tank:** 150-350 gals.

WARD LaFRANCE TRUCK DIVISION

ELMIRA, GREAT AMERICAN INDUSTRIES INC. **NEW YORK**

© 1944 Great American Industries, Inc., Meriden, Conn

Longer Life for Your Fire Hose!

CIRCUL-AIR THE AIR — CONDITIONING FIRE HOSE DRYERS

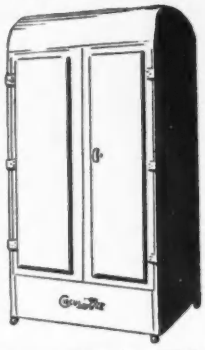
Will **MAKE YOUR HOSE LAST LONGER** — They do a better job of drying, too, in 1/10th the time — in ¼ the space — with ½ the work — *or less.* Save cost of building and repairing towers, too, and *improve new building design.*

A PEACETIME ASSET — A WARTIME NECESSITY

Immediate Delivery — From Stock

USED EXTENSIVELY BY:

Navy Yards, Army, Navy and Marine Air Stations (app. 100) — Chemical Warfare — Arsenals — Ordnance plants — Shipyards — Bell Aircraft — Ford — Glenn Martin — Vought — Sikorsky — Consolidated-Vultee — Pratt & Whitney — Eastern Aircraft — Bendix — Ford — Buick — Packard — Chevrolet — Const. Steel — B. F. Goodrich (5) — Hercules Powder (5) — Western Electric — General Electric — Caterpillar Tractor — Detroit Diesel — Dodge — Tennessee Eastman and many, many others.

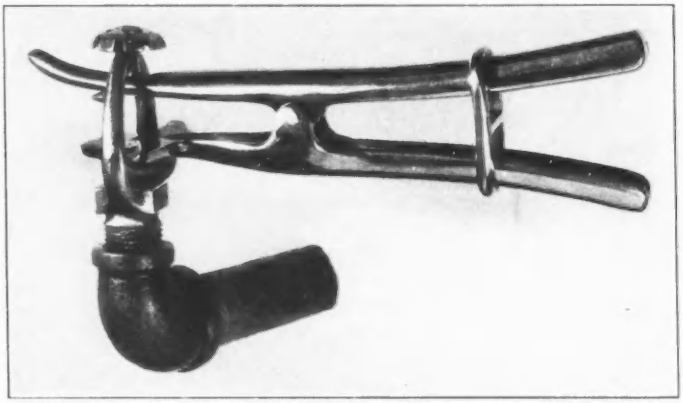


And over 125 Cities, Villages and Townships

THE CIRCUL-AIR CORP.

6339 EAST PALMER ST. DETROIT II, MICH.

REDUCE WATER DAMAGE



USE GRAYLINE SPRINKLER TONGS

Solid Bronze Casting, Hand Tooled

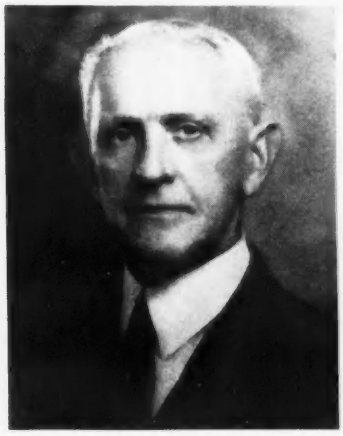
FITS ALL HEADS

Price $4.00 each — F.O.B. Chicago

SEEGER MFG. CO.

4047 N. Maplewood Ave. Chicago 18, Ill.

Longest in Fire Service?



Chief Henry J. Rosenstihl

CHIEF HENRY J. ROSENSTIHL, of Union Springs, Alabama, Volunteer Fire Department, is believed to have had a longer active fire-fighting career than any other fire chief. Chief Rosenstihl was born in 1869 and joined the Union Springs Fire Department as a torch bearer while still a boy. He has been an active fireman for sixty-three years.

Several years ago Radio Station WJSB on Washington, D. C., put out a question over the air in an attempt to locate a fire chief with a service record surpassing that of Chief Rosenstihl. According to the Chief, one could not be located.

The background of the Chief's long experience is rather interesting. After four years in the Confederate Army, his father settled in Union Springs. Seeing the need for a fire department he loaned the town funds to buy a hand pumper. Cisterns were dug on the main street for use by the pumper. Chief Rosenstihl joined his father and brothers in the fire company at the age of eleven.

The Chief relates: "It might be of interest to know that during the days before fire departments became motorized, there was quite a rivalry existing among the various towns. Each year on May Day, Columbus, Rome, Dawson, Troy, and Montgomery would have an annual exhibition and the company running a certain distance, attaching to the hand pumpers, reeling off a given amount of hose and getting a stream of water was given prizes. Union Springs was winner of the first prize many times."

Chief Rosenstihl has served as Colonel on the staff of several governors. He had been active in theatrical life, has led a brass band, and is now Superintendent of Trinity Episcopal Sunday School. He operates a jewelry and optical establishment.

NEW BOOK

John J. McCarthy, Assistant Fire Chief of New York City has written a book, "The Science of Fighting Fire." It is published and copyrighted by W. W. Norton & Co. and sells for $2.75. It contains 260 pages and 14 illustrations. It is not a textbook but rather an interesting account of modern fire departments and fire protection methods written to interest paid, volunteer, and auxiliary firemen as well as citizens in general. Many firemen will find the book interesting reading.

MIDWESTERN CANVAS OR RUBBER TYPE

Firemen's Protective

CLOTHING

What is best . . . rubber or canvas clothing? It is a matter of preference and Midwestern makes them both. Each garment has the extra features, the rugged construction for which Midwestern garments are noted wherever men fight fires. Please order as far in advance as possible.

MIDWESTERN SAFETY COAT A LIFE SAVER

No. 801

Men wearing Midwestern striped coats can be seen far more easily — in fog — smoke — dust — mist and in darkness. Fewer men lost in debis after a cavein. Fewer men knocked off ledges or ladder by hose stream — or run down by traffic. Send for complete description of this fine life saver coat.

MIDWESTERN
PROTECTIVE CLOTHING
MIDWESTERN MANUFACTURING CO.
MACKINAW, ILLINOIS

Write for literature, price lists and material samples.

MIDWESTERN COMBINATION SUIT

DETACHABLE LININGS

Rubberized or canvas coat and Bunker pants with detachable wool linings. Flexible elastic inner sleeve for wrist keeps out water, cold and sparks. Wool lining can be added to any Midwestern fire coat at small additional cost. Snap buttons make it easy to attach and detach quickly.

BUNKER PANTS

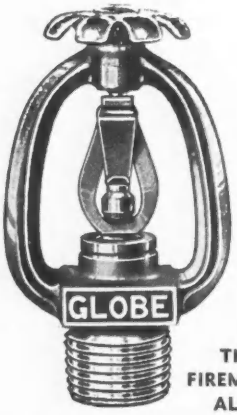
Bunker pants equipped with removable wool lining, sturdy construction, reinforced crotch for pole sliding. These pants, together with coat as illustrated at left, is Midwestern's combination suit No. 101.

MIDWESTERN MFG. CO.
MACKINAW, ILLINOIS

See your local Midwestern distributor for prices and literature, or write the factory.

WORKING "ALWAYS"

NEVER TIRING



THE FIREMAN'S ALLY

SAVEALL SPRINKLER

DISCOVERS!
ALARMS!
EXTINGUISHES!
FIRES!

3 OF EVERY 4

fires occurring in buildings having sprinkler systems are successfully handled by the operation of five or less sprinklers.

Five sprinklers discharge less water than one standard fire department hose stream and at the SEAT of the fire only.

Average fires occurring in sprinklered areas cause only one-tenth as much damage as those where there are no sprinklers.

GLOBE

AUTOMATIC SPRINKLER COMPANY
2035 Washington Avenue
Philadelphia, Pa.

OFFICES IN PRINCIPAL CITIES

MEMBERSHIP REPORT

N. F. P. A. Volunteer Firemen's Section

Every member receives a handsome membership certificate illustrating the history of fire protection.

LAST month 39 fire departments with 445 men were newly enrolled in the N.F.P.A. Volunteer Firemen's Section which now has a total of 1,033 departments with 18,320 firemen enrolled. This is the first time that a total of more than a thousand departments, companies, and fire brigades have been enrolled. The new members are listed below:

Napa Fire Department, Napa, Calif.
Post Engineer, Camp Gordon, Johnston, Fla.
Gooding Volunteer Fire Department, Gooding, Idaho
Camp Phillips Fire Department, Salina, Kans.
Port Allen Volunteer Fire Department, Port Allen, La.
Minden Fire Department, Minden, La.
Guilford Fire Company, Guilford, Me.
Cabin John Volunteer Fire Fighters, Cabin John, Md.
Cannon Falls Fire Department, Cannon Falls, Minn.
Owatonna Fire Department, Owatonna, Minn.
Perham Fire Department, Perham, Minn.
Gray Co., Inc., Dept. "S," Minneapolis, Minn.
U. S. Naval Ammunition Depot, Hastings, Nebr.
Picatinny Arsenal Fire Fighters, Dover, N. J.
Lake Hiawatha Vol. Fire Assn., Lake Hiawatha, N. J.
Hurffville Volunteer Fire Co., No. 1, Hurffville, N. J.
Unit 13-C Auxiliary Fire Force, Rochester, N. Y.
Oxford Hook & Ladder Co., Oxford, N. Y.
Red Springs Volunteer Fire Department, Red Springs, N. C.
Portal Volunteer Fire Department, Portal, N. D.
Mingo Junction Vol. Fire Department, Mingo Junction, Ohio
Morgan Hose Co., Rock Creek, Ohio
St. Clairsville Vol. Fire Department, St. Clairsville Ohio
Antlers Fire Department, Antlers, Okla.
Coalgate Fire Department, Coalgate, Okla.
Purcell Fire Department, Purcell, Okla.
Wagoner Fire Department, Wagoner, Okla.
Hugo Fire Department, Hugo, Okla.
Kingfisher Fire Department, Kingfisher, Okla.
Clarks Summit Fire Co., No. 1, Inc., Clarks Summit Pa.
West Park Independent Fire Co., McKees Rocks, Pa.
Homeville Vol. Fire Co., No. 1, Homeville Terrace, Pa.
Longwood Fire Company, Kennett Square, Pa.
Hummelstown Auxiliary Fire Fighters, Hummelstown, Pa.
Progress Fire Co., Progress, Pa.
Fairfax Vol. Fire Department, Fairfax, Va.
Snohomish County Fire Protection District, No. 2, Mukilteo, Wash.
Marmet Vol. Fire Department, Marmet, W. Va.
Damrow Bros. Co. Fire Brigade, Fond du Lac, Wis.

MEMBERSHIP PLAN

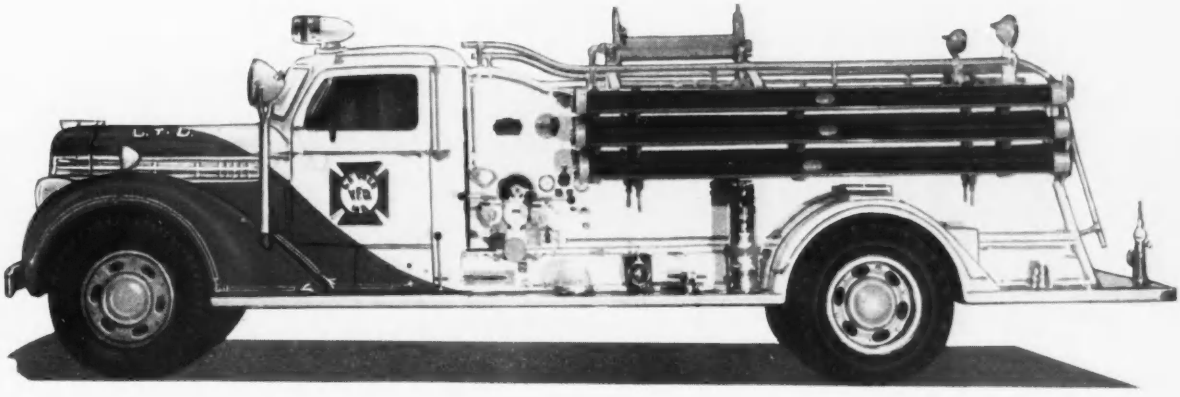
- Through the Volunteer Firemen's Section, fire companies may become N.F.P.A. members. Each member fire company is entitled to have VOLUNTEER FIREMEN magazine sent to the homes of ten firemen.
- As a member, the fire company receives at headquarters a set of all other regular N.F.P.A. publications. This includes the QUARTERLY MAGAZINE and monthly NEWS LETTER.
- Membership in the National Fire Protection Association costs ten dollars per year. If more than ten firemen want to receive the magazine, an additional one dollar should be sent for each additional fireman enrolled.

Eric Peters, This Week magazine.

"Well — your little idea took the chill off the place all right!"

Fire Chiefs want OREN *Apparatus*

because it is dependable, modern, efficient.



This handsome OREN Triple Combination Pumper was delivered to the LaVale Volunteer Fire Department, LaVale, Maryland. Ruggedly constructed, it is equipped with a 500 G.P.M. Hale Two Stage Centrifugal Pump, 200-gallon Booster Tank and a 1200-foot Hose Body. A 12-foot Roof Ladder and a 24-foot Extension Ladder are also carried.

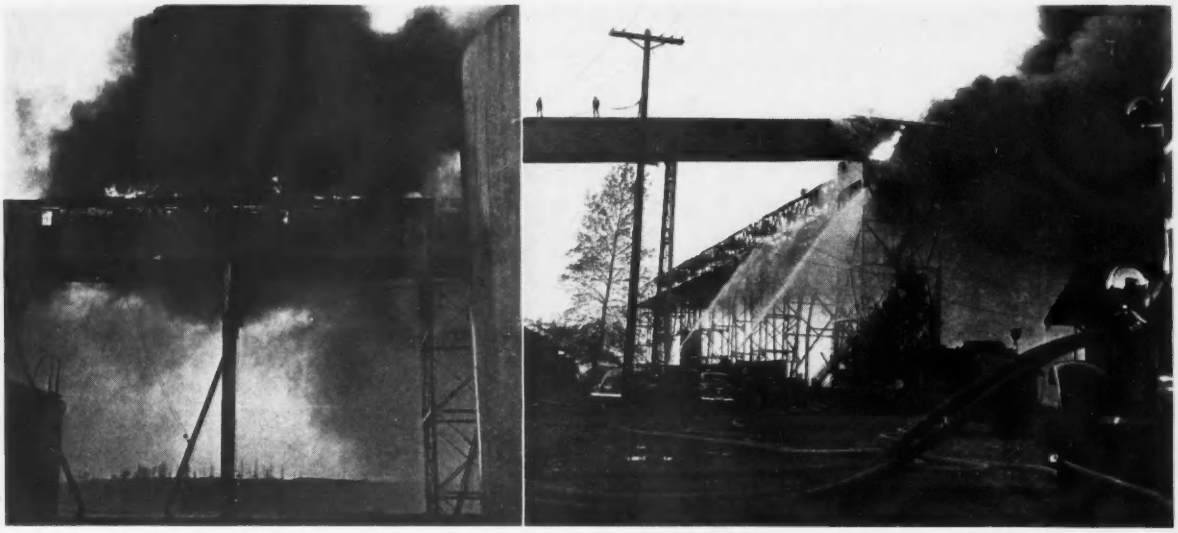
OREN can furnish a complete line of fire trucks in all types and sizes.

Catalogue Furnished on Request.

OREN FIRE APPARATUS COMPANY

1201-9 WEST SALEM AVENUE

ROANOKE, VIRGINIA



The firemen of Tacoma, Washington, under Chief E. N. Whitaker, faced an unusual and difficult situation on the evening of October 11, 1943, when flames swept a grain conveyor at the Port of Tacoma. The conveyor, on a trestle 75 feet above the ground, runs in the shape of an L from grain elevators to ship loading docks. The fire was caused by an overheated bearing on the motor that ran the large conveyor belt. A watchman at a nearby oil company saw the fire and gave the alarm while elevator workmen were at supper. The elevator belt was operating and dust in the shed acted as a fuse to rapidly spread the fire. The fire department aided by its fireboat and several Coast Guard craft attacked the fire with heavy streams from the ground and also carried lines up to the conveyor gallery. The fire was successfully controlled with a loss of only $20,000 to a property which, exclusive of contents, is valued at $2,000,000.

Story About OCD Apparatus

(Continued from Page 10)

ment's money. We were fortunate in being able to accomplish certain economies so that the actual figure is somewhat below that, but for the sake of computation it may be considered that the average pumping unit represents an investment of about $1,500 delivered. Incidentally this procurement was administered with an overhead cost of less than 2½ per cent. This means that in many of the larger communities the OCD has been able to augment the local fire fighting facilities by equipment representing in cost far more than the average community would have been able to spend on its own fire protection even if apparatus had been able for purchase.

THE distribution of more than two million pump tank extinguishers has been of great assistance in guarding against the spread of small household fires. Every fire is a small one at first and that the availability of this block equipment has made unnecessary the use of the larger city apparatus in thousands of cases. In wartime it is normal to expect a greatly increased fire loss from dwelling fires, but that such a case is not true nowadays. Although loss from industrial fires has increased 67 per cent, there has been a reduction of loss from dwelling fires. It certainly seems to me that this condition is due to the general distribution of the OCD auxiliary equipment and also the training of so many auxiliary firemen and other members of the protective services in handling small fires.

To persons in the field there seems to have been an unconscionable delay in the delivery of this equipment. You were advised that it was under purchase and that it would soon be available for use, but time went on and I am afraid that a great deal of disappointment was occasioned because of the lack of delivery of the material expected. As pointed out, the first procurement was requested twenty months ago, and it is only now that final deliveries are being made. This, of course, is due to two reasons; first, the necessity for compliance with various legal steps which had to be taken, such as the appointment of property officers, the filing of bonds, and the acquisition of motor vehicles. This procedure was quite a factor in keeping actual fire-fighting material from the places where it was most needed. But Congress in its wisdom saw fit to protect the people of the United States from possible malfeasance by insisting upon all these legal matters. However, the actual delivery of pumpers under wartime conditions commenced less than six months after the procurement was initiated. If you will think over your own experiences, you will recall that even in peace times quite often a delay of six months or more used to take place between the time when the order for a piece of apparatus was placed and its delivery. Nevertheless, our distribution reached about 14,000 units by December 1, 1943.

We had tremendous difficulties in obtaining facilities and materials. The specifications of the pumpers themselves had to be radically altered to avoid the use of critical materials. We had to agree to the substitution of softer steels and to practically eliminate all nonferrous metals. The fact that the manufacturers were able to overcome these difficulties and still produce units which are as efficient as they are is a great tribute to their ingenuity.

In the case of service hose, we were unable to obtain any double jacketed hose nor were we able to obtain sufficient crude rubber to make the kind of a product which we would have liked to deliver. We were limited in our supply of nonferrous metals so that instead of the bronze couplings to which you are accustomed in peacetime, we had to have the couplings made out of malleable iron. This seems a simple enough problem until you appreciate that the brass casters are not equipped to handle malleable iron nor are the dies and tools the same for the two different products. This resulted in practically starting a new industry and a great deal of trial and error was necessary before the couplings could be produced. Naturally the production of the hose could not be completed until the couplings were available. Incidentally, it might be of interest to know that we had to guard against the possible withdrawal of malleable iron for this purpose and had under development a cast glass coupling which seemed to offer faborable possibilities.

We have not been able to supply any rubber boots as part of the equipment of the volunteer firemen who man our pumpers. The original procurement order for 108,000 pairs of rubber boots was placed on May 2, 1942 and a tentative priority obtained for the rubber which would have allowed us to obtain production after the existing contracts for the Armed Services were completed. By the time the manufacturing facilities were available, however, the OPA interposed and said that such a number of boots could not be taken to "stay hanging around on fire house walls." Thereupon we went into the open market and purchased 90,000 pairs of boots from wholesale stocks. After we had bought them the OPA found out about it and made us give them up.

Of the various 48 items of accessories, such as hoseline equipment and ladders, none of them except possibly the first aid kits have ever been delivered on schedule.

(Continued on Page 21)

Fires Like This
Need Not Mean Total Loss

NATIONAL FOAM CONTINUOUS FOAM PRODUCTION SYSTEM

One of the two blacked-out tankers which collided off the Florida Coast, October 20th, setting fire to thousands of gallons of aviation gasoline, pours out dense columns of smoke.

RECENTLY, a tanker after a similar collision burst into flames almost instantly. National Foam and Fire Fighting Equipment on that tanker soon brought the fire under control, smothering the flames with its foam blanket, saving the tanker and most of its precious cargo of aviation gasoline.

National Fire Foams have been adopted and are being used extensively by the U. S. Navy, by most oil refineries, and large industrial plants.

National Foams produce a gas-tight blanket sealing out the oxygen, sealing in the combustible gases, and effectively eliminating flashbacks.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

Most oil refineries and many other important industries are protected by National Foams.

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

1632 Sansom St., Philadelphia, Pa.

Fire cannot burn without air. With swift efficient action *CD/Fog* completely surrounds fire with a blanket of carbon dioxide. *Air is sealed out.*

CD/Fog is especially recommended for oil, gasoline, electrical, or chemical fires. Built by General Detroit, manufacturers of fire protection equipment since 1905, *CD/Fog* comes from a distinguished line of fire fighters, including such famous names as Fire Guard, Alaskan, and Floafome. Like all General products, it is quality mass produced for prompt delivery to essential users.

Find out about *CD/Fog* today! Mail the coupon and details will be rushed!

THE GENERAL DETROIT CORP.

Former Name The General Fire Truck Corp.

NEW YORK DETROIT CHICAGO

Distributors in all principal cities

West Coast Affiliate: The General Pacific Corp., Seattle, Los Angeles, San Francisco.

THE GENERAL DETROIT CORP.
2200 East Jefferson Ave., Detroit 7, Mich.
SPEED complete details to:

*Name*_____

*Title*_____

Just attach this convenient coupon to your letterhead and mail.

Our Readers Say—

To the Editor:

"The November issue of Volunteer Firemen presented on page 5 an article dealing with post-war planning for fire departments. In reference to same permit me this opportunity to inform you as to the type of fire alarm system established for my company. It's a system that is practical as well as inexpensive for a population of approximately 3,500 people.

"Cable facilities, equipment, intermediate wiring on both ends were installed by the telephone company and is maintained by hem. All 220 volt wiring from their apparatus to our siren was installed by an electrician and is cared for by us.

"The local citizenry have been informed that when reporting a fire by telephone they must tell the operator they want the Wyckoff Fire Department (necessary on account of several telephone exchanges serving Wyckoff). The operator having received advanced instructions passes the call to the Wyckoff operator who refers same to police headquarters where 24-hour service is maintained. Upon receiving the call the desk officer immediately operates a key, which when pressed closes through the connection causing the siren to sound. By releasing and operating his key he controls the duration of the signal also, which proves useful in air raid tests.

"The first fireman arriving at headquarters operates the same type key as well as a small hand generator. This action rings a bell in the police station signifying the arrival of someone to receive the information regarding the call, which is transmitted and received by a telephone on each end. We have found this method to be quick, efficient, accurate, and very inexpensive when its monthly cost is included in the annual fire department budget."

Eugene H. Spender,
Wyckoff, New Jersey.

To the Editor:

"Enclosed I am sending you a copy of a letter that I am issuing to all employees of the Draughon's Fire Department, Inc. The writer, who is far beyond 'sold' on fire protection, wishes to congratulate you on the article on page 7 of your December issue, under the caption 'How Not To Do It.' Why not give us more of this?

"I believe personally (one man's opinion) that this 'How Not To Do It' will be more impressive and beneficial to any inexperienced fireman than the general run of articles and pictures which show how it was done.

"Yours for continued success and 'How Not To Do It.'"

Chief J. V. Draughon,
Draughon's Fire Dept., Inc.

Chief Draughon, who operates an excellent suburban fire service outside of Nashville, Tenn. (see Volunteer Firemen for October 1941) sent a letter to each of his firemen calling attention to "How Not To Do It" and other articles in Volunteer Firemen. The letter ends with these words: "I feel that any man interested in his work will study these monthly magazines, also the Quarterly and all other literature which we receive from the National Fire Protection Association."

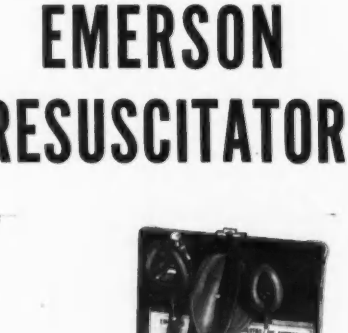
BETTER LIFE SAVING

FOR

VOLUNTEER DEPARTMENTS

WITH THE

EMERSON RESUSCITATOR



Accepted by
Council on Physical Therapy
American Medical Association

Now more than ever, your department needs a resuscitator that is dependable and effective in all emergencies. Our record in fire departments, industrial plants and the armed forces explains why today we are the largest builders of automatic breathing equipment in the world.

WRITE FOR LITERATURE
OR A DEMONSTRATION

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

Story About OCD Apparatus

(*Continued from Page 18*)

Even such a simple thing as rope caused us trouble. After we were half way through our procurement, we were informed that no more sisal rope could be made available to us and we had to change over to cotton. Cotton rope is not as satisfactory for use in moist climates. We tried to have this rope proofed against mildew, but were again told that all the chemicals for such purpose were needed by the Army and Navy and that we could not have any.

The manufacture of malleable iron hoseline fittings again caused us difficulty because the facilities which we were able to obtain were constantly being diverted from our production to that of the Armed Forces and we never could depend upon any production promises which were given to us. As a matter of fact, some of the contracts have had to be renegotiated and transferred at least four times. The crowning tragedy was when we had to redesign the siamese clapper valve. The valve disk and pin hinge in a standard type valve are made of bronze in order to resist corrosion and avoid sticking. We could not get any bronze and tried to make the valve work with a cast disk and pin, but this proved impracticable and while we were able to use the iron disk, it was impossible to use a ferrous pin, and we needed 1,400 pounds of bronze rod in order to complete the manufacture. The WPB absolutely refused to allow a priority for this material and for 1,400 pounds of bronze the completion of our entire accessory program was held up for some months.

You will also appreciate the difficulties of assembling and repacking about 300,000 separate items of accessories, varying in size from a flashlight bulb to a pike pole, but we had to do this, and in order to fulfill the requirements of distribution we have had to establish a system of assembly warehouses which comprises over 650,000 square feet of storage space and the services of about 125 people. I will not go into the mere difficulties of obtaining packing lumber, nails and steel strapping to accomplish the necessary packing, but I assure you it was by no means a simple problem.

It might interest you to know that since the inception of these Warehouses our traffic has amounted to more than fifty million pounds, and this is in addition to a similar amount of traffic handled direct from manufacturers to communities, so that the entire amount of traffic handled has reached the remarkable sum of one hundred million pounds.

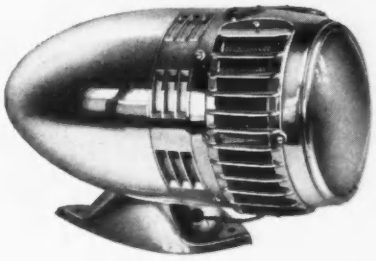
In a future issue of VOLUNTEER FIREMEN, Colonel White will describe the legal restrictions under which the OCD apparatus distribution policies operate.

●

PUMP WANTED

THE Ferndale Volunteer Fire Company, of Ferndale, Maryland, (Member N.F.P.A.), is anxious to obtain a 500-gallon centrifugal pump for its fire truck that is nearing completion. Anyone interested in disposing of a pump of this type, please communicate with Chief George E. Law, of Ferndale.

ADD *Maximum* SAFETY with FEDERAL SIRENS



The FEDERAL FURY EXHAUST WHISTLE is available as a Warning signal in those communities which still prohibit the use of sirens under wartime conditions. Two new models of oscillating lights are also available for additional protection by a visual warning.

The unmistakable warning tone—up and down the scale—of FEDERAL Sirens assures maximum safety to pedestrians and vehicles, including your own.

FEDERAL Sirens are powerful—their tone, reaching far ahead, gives ample warning to avoid confusion that so often results in near-panic and accidents. In addition FEDERAL Sirens can be furnished with flashing red light or oscillating red light—giving visible as well as audible warning.

These sirens, made in a variety of models, are designed and constructed for long, dependable service.

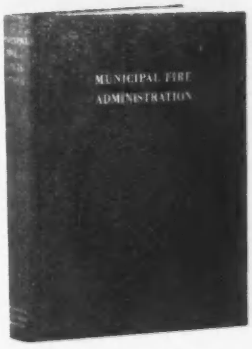
Write for Bulletin Today!

FEDERAL ELECTRIC CO., INC.

SIREN HEADQUARTERS

8717 So. State Street — Chicago 19, Illinois

COMPLETELY REVISED TEXT ON MUNICIPAL FIRE ADMINISTRATION



Designed primarily for use in the practical correspondence course in Municipal Fire Administration, sponsored by the International City Managers' Association, this new text is of value to everyone interested in the direction or operation of a fire department.

The problems of volunteer and part-paid fire departments, including those of equipment, rural water supplies, mutual aid and county organization, fire fighting tactics and strategy, are given attention.

The text is furnished as part of the $35 fee covering the complete cost to a student of the course. This fee includes the review and correction of lesson papers. In no way can men studying for promotion in a fire department receive a more complete understanding of fire department operations and administrative problems.

Copies may also be obtained by persons not enrolling in the course at a cost of $7.50.

This 600-page text on Municipal Fire Administration contains matter never before in print.

OUTLINE OF COURSE

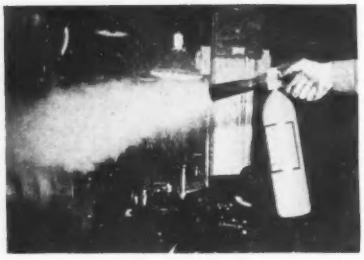
The Municipal Fire Problem.
Fire Insurance Classification of Cities.
Organization for Fire Protection.
Personnel Administration.
Water Supply for Fire Service.
Department Buildings and Equipment.
Distribution of Equipment and Personnel.
Fire Alarm Signaling Systems.
The Technique of Fire Fighting.
Legal Aspects of Fire Prevention.
Work of Municipal and State Fire Prevention Agencies.
Fire Investigation and Incendiarism.
Records and Measurement of Results.

INSTITUTE FOR TRAINING IN MUNICIPAL ADMINISTRATION

1313 East 60th Street · Chicago 37, Illinois

MANUFACTURERS' ANNOUNCEMENTS

RANDOLPH LABORATORIES, INC. 8 East Kinzie St., Chicago 11, Illinois, has placed on the market a small carbon dioxide fire extinguisher. This extinguisher features a fixed discharge horn, and a thumb operated trigger valve. According to the manufacturer the operation



of this 4-pound extinguisher requires only one hand — from the moment the unit is grasped until the fire is out. The manufacturer reports, that his product has just received approval by Underwriters Laboratories, Inc. For further details about this extinguisher it is suggested that you write the manufacturer.

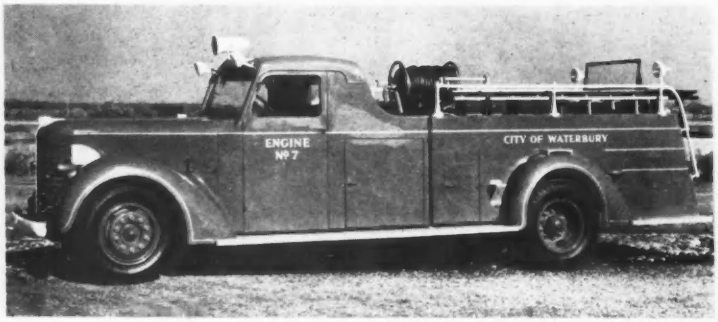
●

NATIONAL FOAM SYSTEM, INC., was presented with the Army-Navy "E" Production Award at an impressive ceremony held November 30th at the company's West Chester plant. The citation by the Under Secretary of the Navy which accompanied this award referred to "accomplishment more than seemed reasonable or possible a year ago." National Foam System is supplying vast quantities of foam materials and appliances to the Navy for use on board ship and at shore establishments.

CIRCUL-AIR CORPORATION, manufacturer of the electro-mechanical fire hose dryer, announces the removal of its offices to 6339 East Palmer St., Detroit 11, Michigan. For the present the corporation will also maintain its Jackson, Michigan, office but will be able to better serve its rapidly growing clientele from its larger quarters at Detroit. Fire departments will be interested to know that the Corporation is in a position to make immediate shipments from stock and priority assistance will be gladly given. The Circul-air dryer is now in use by municipalities of all population classes, by hundreds of industrial plants, and by army and navy establishments. A copy of a new booklet entitled "Guarding America's Hose Supply" will be sent upon request to the company.

●

APPOINTMENT of H. W. Lange as sales manager of the Fire Division of CARDOX CORPORATION of Chicago has been announced by Eric Geertz, Vice-President. Prior to becoming Sales Manager Mr. Lange had for several years been chief engineer of the Fire Division. It was while Mr. Lange was chief engineer that many of the Cardox Fire Extinguishing Systems installed in war industries were engineered. Mr. Lange is well known among fire protection men, both for his activities at Cardox Corporation and for his earlier work as engineer for Underwriters' Laboratories, Incorporated. He is the author of a number of articles on fire and fire protection. H. R. Harper will succeed Mr. Lange as chief engineer of the Fire Division. Mr. Harper also brings a well rounded background of experience to his new position.



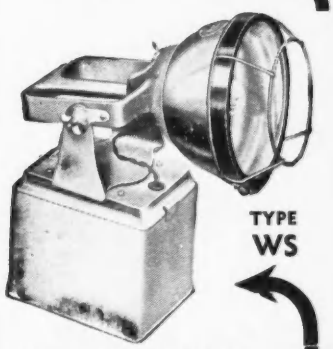
The city of Waterbury, Connecticut has just accepted delivery of the new Buffalo 750 GPM "Invincible" Triple Combination Pumping Engine pictured above. This is the third Buffalo Pumping Engine of this type which has been delivered to Waterbury during the past three years. The new Buffalo "Invincible" includes several construction features which were also provided on the two previous pieces of motor fire apparatus delivered to the city. The driver's compartment is a three or four-man all-steel cab with all-steel doors and safety glass. A special preference rating granted by WPB enabled the city of Waterbury to secure special additional accessory equipment.

INDEX TO ADVERTISERS

	Page
Akron Brass Mfg. Co., Inc.	4
American District Telegraph Co.	11
John Bean Mfg. Co.	23
Carpenter Manufacturing Co.	22
Circul-air Corp.	14
J. H. Emerson Co.	20
Federal Electric Co.,Inc.	21
Fog Nozzle Co.	2
The Gamewell Co.	24
General Detroit Corp.	20
Globe Automatic Sprinkler Co.	16
Institute for Training in Municipal Administration	21
Walter Kidde & Co., Inc.	3
Midwestern Manufacturing Co.	15
National Foam System, Inc.	19
Oren Fire Apparatus Co.	17
Seeger Manufacturing Co.	14
Ward LaFrance Truck Division	13

When you write to advertisers, please mention VOLUNTEER FIREMEN

One of 70



TYPE WS

- RECHARGEABLE BATTERY
- LIGHTEST WEIGHT—76 OZ.
- POWERFUL—MILE RANGE
- LONGEST BURNING HOURS
- ALL NIGHT WORK LIGHT OR
- 150,000 C.P. SEARCHLIGHT
- SPARE BATTERY INSERTED IN TWENTY SECONDS

●

WRITE FOR NEW EMERGENCY LIGHTING BULLETIN No. 144.

●

CARPENTER MFG. CO.
"MASTER ★ LIGHT ★ MAKERS"
168 SIDNEY ST., CAMBRIDGE 39, MASS.

800 LB. PUMP PRESSURE SECRET OF FIRE-KILLING FOG!

FMC FOG FIRE FIGHTER *puts out fires up to 35 times faster, with 90% less water and little or no water damage.*

FMC FOG FIRE FIGHTERS *are low cost units. Carry own water and equipment. Several models.*

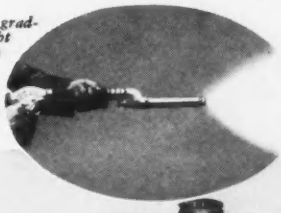
Only FMC Packs the Punch that Delivers 600 lbs. at Nozzle

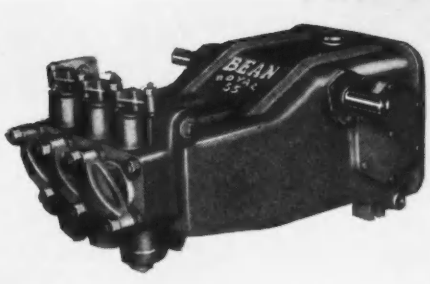
Why 800 lb. *pump* pressure for fog fire fighting? Because it takes 600-700 lb. *nozzle* pressure to deliver the superfine fog and its quick-quenching efficiency with a minimum of water. Deduct 100 or 200 lbs. from any 300, 400 or 500 lb. pump pressure, and you cannot get the 600 lb. *nozzle* pressure that is exclusive with FMC high-pressure fire fighting equipment.

Friction loss in 250 feet of high-pressure hose is great and many fires cannot be reached with less than 250 feet. If your pressure is not high enough to start with, your *nozzle* pressure can't be more than 100 to 300 lbs. with little or no high-pressure benefits.

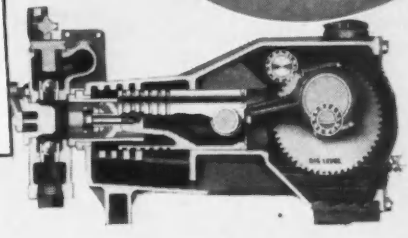
Don't confuse FMC High-Pressure Fog with any other system. Nothing compares with it for speed, efficiency and economy of water for all types of fires. Get full details from John Bean Mfg. Co., Lansing, Mich., or Bean-Cutler Division, Food Machinery Corporation, San Jose, Calif.

FOG FIRE GUN *graduates from straight "power" stream to close-up fog. Efficient for use only with 600 lb. nozzle pressure or more!*





THE PUMP THAT IS REVOLUTIONIZING FIRE-FIGHTING TECHNIQUE



THE PUMP *that is revolutionizing fire-fighting technique. The "heart" of the FMC Fog Fire Fighter. Pumps 60 gallons of water a minute. Built for much higher pressure, it easily gives (800 lb. pump pressure) 600 lb. nozzle pressure without overworking.*

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO., 726 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 50 YEARS

DELAYED ALARMS - *deadlier than Sabotage*

ENCOURAGE THE PROMPT USE OF FIRE ALARM BOXES

"When Fire Occurs — Call the Fire Department"?

Certainly — but what with? Volunteer Fire Departments especially are impeded in their fire fighting operations by delay in receiving alarms. Given prompt notification of the locations of fires in their incipiency serious fire losses would occur infrequently, if ever. **Fire Alarm Boxes** distributed at points of fire hazard provide the answer — they will eliminate delay and reduce the fire loss.

Post-War Programs. Municipalities are now planning post-war improvements on an unprecedented scale and the community fire defenses are being given a prominent place in such programs. Your post-war program will be incomplete if it fails to include adequate Fire Alarm Protection.

Gamewell Fire Alarm Systems — especially adapted to the needs of communities served by Volunteer Fire Departments and priced within the means of any such community — will be made available when existing wartime restrictions are removed. In the meantime our experience and assistance are freely at your disposal. Why not write us today for our suggestions?

THE GAMEWELL COMPANY

NEWTON UPPER FALLS, MASSACHUSETTS